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SECTION 1  
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PRODUCT IDENTIFIER                    HD 2504            ICI COLORANT-HD PERMA-CAL YELLOW (AX)  
DATE OF PREPARATION                JUNE 28, 2002  
PRODUCT USE                        PROTECTIVE COATING

MANUFACTURED BY:    ICI PAINTS NORTH AMERICA, 925 EUCLID AVENUE,  
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MSDS PREPARED BY:    PRODUCT SAFETY AND TOXICOLOGY DEPARTMENT  
                                 ICI PAINTS NORTH AMERICA

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS  
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	INGREDIENT	WT. %:
CHEMICAL NAME	1,2-ETHANEDIOL	20-30
COMMON NAME :	ETHYLENE GLYCOL	
CAS NUMBER:	107-21-1	
CHEMICAL NAME	POLY(OXY-1,2-ETHANEDIYL, ALPHA-4-NONYLPHENYL) -	5-10
	OMEGA-HYDROXY-, BRANCHED	
COMMON NAME :	GLYCOL ETHER	
CAS NUMBER:	127087-87-0	
CHEMICAL NAME	KAOLIN	20-30
COMMON NAME :	CLAY	
CAS NUMBER:	1332-58-7	
CHEMICAL NAME	TITANIUM OXIDE	1-5
COMMON NAME :	TITANIUM DIOXIDE	
CAS NUMBER:	13463-67-7	
CHEMICAL NAME	1,2,3-PROPANETRIOL	1-5
COMMON NAME :	GLYCERINE	
CAS NUMBER:	56-81-5	
CHEMICAL NAME	BUTANAMIDE, 2-((2-METHOXY-4-NITROPHENYL)AZO)	10-20

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SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS  
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COMMON NAME : -N-(2-METHOXYPHENYL)-3-OXO-PIGMENT YELLOW 74  
CAS NUMBER: 6358-31-2

CHEMICAL NAME BUTANAMIDE, 2-{(4-CHLORO-2-NITROPHENYL)AZO}-N-(2-CHLOROPHENYL)-3-OXO- 5-10  
COMMON NAME : PIGMENT YELLOW 3  
CAS NUMBER: 6486-23-3

CHEMICAL NAME WATER 20-30  
COMMON NAME : WATER  
CAS NUMBER: 7732-18-5

CHEMICAL NAME LECITHINS 1-5  
COMMON NAME : LECITHIN  
CAS NUMBER: 8002-43-5

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SECTION 3: HAZARDS IDENTIFICATION  
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PRIMARY ROUTE(S) OF EXPOSURE  
INHALATION, SKIN CONTACT, EYE CONTACT, INGESTION.

EFFECTS OF OVEREXPOSURE

INHALATION PROLONGED INHALATION MAY LEAD TO MUCOUS MEMBRANE IRRITATION, DROWSINESS, DIZZINESS AND/OR LIGHTHEADEDNESS, HEADACHE, COUGHING, CENTRAL NERVOUS SYSTEM DEPRESSION, DIFFICULTY OF BREATHING, KIDNEY DAMAGE.

SKIN CONTACT IRRITATION OF SKIN. PROLONGED OR REPEATED CONTACT CAN CAUSE DERMATITIS, DEFATTING. POSSIBLE SENSITIZATION TO SKIN.

EYE CONTACT IRRITATION OF EYES. PROLONGED OR REPEATED CONTACT CAN CAUSE CONJUNCTIVITIS, TEARING OF EYES.

INGESTION INGESTION MAY CAUSE DIZZINESS AND/OR LIGHTHEADEDNESS, HEADACHE, NAUSEA, VOMITING, DIARRHEA, GASTRO-INTESTINAL DISTURBANCES, SEVERE ABDOMINAL PAIN, ABDOMINAL PAIN, APATHY, CENTRAL NERVOUS SYSTEM DEPRESSION, RESPIRATORY PROBLEMS, INTOXICATION, BLOOD ABNORMALITIES, KIDNEY DAMAGE, PULMONARY EDEMA, LOSS OF CONSCIOUSNESS, ACUTE POISONING, RESPIRATORY

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**SECTION 3: HAZARDS IDENTIFICATION**

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FAILURE, CARDIAC FAILURE, BRAIN DAMAGE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE  
EYE, SKIN, RESPIRATORY DISORDERS  
LUNG DISORDERS  
KIDNEY DISORDERS

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**SECTION 4: FIRST-AID MEASURES**

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**INHALATION** REMOVE TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING.  
GET EMERGENCY MEDICAL ATTENTION.  
HAVE TRAINED PERSON GIVE OXYGEN IF NECESSARY. GET MEDICAL HELP FOR ANY BREATHING DIFFICULTY.  
REMOVE TO FRESH AIR IF INHALATION CAUSES EYE WATERING, HEADACHES, DIZZINESS, OR OTHER DISCOMFORT.

**SKIN CONTACT** WASH THOROUGHLY WITH SOAP AND WATER. IF ANY PRODUCT REMAINS, GENTLY RUB PETROLEUM JELLY, VEGETABLE OR MINERAL/BABY OIL ONTO SKIN. REPEATED APPLICATIONS MAY BE NEEDED. REMOVE CONTAMINATED CLOTHING.  
WASH CONTAMINATED CLOTHING BEFORE RE-USE.

**EYE CONTACT** FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, ESPECIALLY UNDER LIDS FOR AT LEAST 15 MINUTES. IF IRRITATION OR OTHER EFFECTS PERSIST, OBTAIN MEDICAL TREATMENT.

**INGESTION** IF SWALLOWED, OBTAIN MEDICAL TREATMENT IMMEDIATELY.

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**SECTION 5: FIRE-FIGHTING MEASURES**

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**FLASH POINT (SETA)** NONE LOWER EXPLOSIVE LIMIT NOT AVAILABLE  
UPPER EXPLOSIVE LIMIT 15.3 (%)

**FIRE EXTINGUISHING MEDIA**  
DRY CHEMICAL OR FOAM  
WATER FOG.  
CARBON DIOXIDE.

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**SECTION 5: FIRE-FIGHTING MEASURES**

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**UNUSUAL FIRE AND EXPLOSION HAZARDS**

CLOSED CONTAINERS MAY BURST IF EXPOSED TO EXTREME HEAT OR FIRE.

MAY DECOMPOSE UNDER FIRE CONDITIONS EMITTING IRRITANT AND/OR TOXIC GASES.

**FIRE FIGHTING PROCEDURES**

WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS. FIREFIGHTERS SHOULD USE FULL PROTECTIVE CLOTHING, EYE PROTECTION, AND SELF-CONTAINED BREATHING APPARATUS.

**HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS**

CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN, PHOSPHOROUS, TOXIC GASES.

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**SECTION 6 ACCIDENTAL RELEASE MEASURES**

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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

COMPLY WITH ALL APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS.

ELIMINATE ALL SOURCES OF IGNITION. VENTILATE AREA. SPILLS MAY BE COLLECTED WITH ABSORBENT MATERIALS. PLACE COLLECTED MATERIAL IN PROPER CONTAINER.

COMPLETE PERSONAL PROTECTIVE EQUIPMENT MUST BE USED DURING CLEANUP.

LARGE SPILLS - SHUT OFF LEAK IF SAFE TO DO SO. DIKE AND CONTAIN SPILL. PUMP TO STORAGE OR SALVAGE VESSELS. USE ABSORBENT TO PICK UP EXCESS RESIDUE. KEEP SALVAGEABLE

MATERIAL AND RINSE WATER OUT OF SEWERS AND WATER COURSES.

SMALL SPILLS - USE ABSORBENT TO PICK UP RESIDUE AND DISPOSE OF PROPERLY.

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SECTION 7 HANDLING AND STORAGE  
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## HANDLING AND STORAGE

STORE BELOW 100F (38C). KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. KEEP FROM FREEZING.

OTHER PRECAUTIONS USE ONLY WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. AVOID CONTACT WITH SKIN AND EYES, AND BREATHING OF VAPORS. WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING OR SMOKING. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE. GROUND EQUIPMENT WHEN TRANSFERRING TO PREVENT ACCUMULATION OF STATIC CHARGE.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION  
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COMMON NAME : ETHYLENE GLYCOL  
CAS NUMBER: 107-21-1  
ACGIH(STEL): C 100 MG/M3

COMMON NAME : CLAY  
CAS NUMBER: 1332-58-7  
ACGIH(TWA): 2 MG/M3 OSHA(TWA): 5 MG/M3

COMMON NAME : TITANIUM DIOXIDE  
CAS NUMBER: 13463-67-7  
ACGIH(TWA): 10 MG/M3 OSHA(TWA): 10 MG/M3

COMMON NAME : GLYCERINE  
CAS NUMBER: 56-81-5  
ACGIH(TWA): 10 MG/M3 OSHA(TWA): 5 MG/M3

## RESPIRATORY PROTECTION

CONTROL ENVIRONMENTAL CONCENTRATIONS BELOW APPLICABLE EXPOSURE STANDARDS WHEN USING THIS MATERIAL. WHEN RESPIRATORY PROTECTION IS DETERMINED TO BE NECESSARY, USE A NIOSH/MSHA (CANADIAN Z94.4) APPROVED ELASTOMERIC SEALING-SURFACE FACEPIECE RESPIRATOR OUTFITTED WITH ORGANIC VAPOR CARTRIDGES AND PAINT SPRAY (DUST/MIST) PREFILTERS. DETERMINE THE PROPER LEVEL OF PROTECTION BY CONDUCTING APPROPRIATE AIR MONITORING. CONSULT 29CFR1910.134 FOR SELECTION OF RESPIRATORS (CANADIAN Z94.4).

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**VENTILATION** PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILD-UP OF VAPORS.

**PERSONAL PROTECTIVE EQUIPMENT**  
EYE WASH, SAFETY SHOWER, SAFETY GLASSES OR GOGGLES.  
IMPERVIOUS GLOVES, APRON.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

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<b>VAPOR PRESSURE:</b>	<b>NOT AVAILABLE</b>	<b>SPECIFIC GRAVITY:</b>	<b>1.348</b>
<b>BOILING RANGE:</b>	<b>212-500F/ -260C</b>	<b>WEIGHT PER GALLON:</b>	<b>11.22/ 13.47IMP</b>
<b>%VOLATILE BY VOLUME:</b>	<b>59.46</b>		
<b>PHYSICAL STATE:</b>	<b>LIQUID</b>	<b>APPEARANCE</b>	<b>YELLOW</b>
<b>SOLUBILITY IN WATER:</b>	<b>NOT AVAILABLE</b>	<b>PH:</b>	<b>NOT AVAILABLE</b>

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**SECTION 10: STABILITY AND REACTIVITY**

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**UNDER NORMAL CONDITIONS**  
STABLE  
SEE SECTION 5 FIRE FIGHTING MEASURES

**MATERIALS TO AVOID**  
OXIDIZERS.  
STYRENE MONOMER

**CONDITIONS TO AVOID**  
CONTACT WITH OXIDIZING AGENT, FREEZING, OPEN FLAME.

**HAZARDOUS POLYMERIZATION**  
WILL NOT OCCUR

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SECTION 11: TOXICOLOGICAL INFORMATION  
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COMMON NAME : ETHYLENE GLYCOL

CAS NUMBER: 107-21-1

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

LD50: 4700.00 MG/KG ORL RAT

LD50: 5500.00 MG/KG ORL MOU

COMMON NAME : GLYCOL ETHER

CAS NUMBER: 127087-87-0

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME : CLAY

CAS NUMBER: 1332-58-7

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME : TITANIUM DIOXIDE

CAS NUMBER: 13463-67-7

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

LD50: 24.00 GM/KG ORL RAT

LC50: 6820.00 MG/M3/4HR IHL RAT

COMMON NAME : GLYCERINE

CAS NUMBER: 56-81-5

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

LD50: 12.60 GM/KG ORL RAT

LD50:&gt; 10.00 MG/KG SKN RBT

LC50:&gt; 570.00 MG/M3/1HR IHL RAT

COMMON NAME : PIGMENT YELLOW 74

CAS NUMBER: 6358-31-2

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME : PIGMENT YELLOW 3

CAS NUMBER: 6486-23-3

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

LD50:&gt; 10.00 GM/KG ORL RAT

COMMON NAME : LECITHIN

CAS NUMBER: 8002-43-5

CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

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SECTION 11: TOXICOLOGICAL INFORMATION  
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## SUPPLEMENTAL HEALTH INFORMATION

NO ADDITIONAL EFFECTS ARE ANTICIPATED

CARCINOGENICITY NO CARCINOGENIC EFFECTS ARE ANTICIPATED

## REPRODUCTIVE EFFECTS

NO REPRODUCTIVE EFFECTS ARE ANTICIPATED

MUTAGENICITY NO MUTAGENIC EFFECTS ARE ANTICIPATED

TERATOGENICITY SOME LABORATORY TEST RESULTS HAVE SHOWN ETHYLENE GLYCOL TO  
BE AN ANIMAL TERATOGEN.

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SECTION 12: ECOLOGICAL INFORMATION  
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NO ECOLOGICAL TESTING HAS BEEN DONE BY ICI PAINTS ON THIS  
PRODUCT AS A WHOLE.

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SECTION 13: DISPOSAL CONSIDERATIONS  
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WASTE DISPOSAL DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.  
AVOID DISCHARGE TO NATURAL WATERS.

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SECTION 14: TRANSPORT INFORMATION  
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DOT PAINT \*\* PROTECT FROM FREEZING \*\*

IMDG NOT AVAILABLE

IATA NOT AVAILABLE

TDG NOT AVAILABLE



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SECTION 15: REGULATORY INFORMATION  
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	SARA 302	SARA 313	CERCLA 302.4	HAZ AIR POLLUTANT	MARINE POLTNT
CAS NUMBER: 107-21-1	NO	YES	YES	YES	NO
COMMON NAME : ETHYLENE GLYCOL					
CAS NUMBER: 127087-87-0	NO	YES	NO	YES	NO
COMMON NAME : GLYCOL ETHER					

AS OF THE DATE OF THIS MSDS, ALL OF THE COMPONENTS IN THIS PRODUCT ARE LISTED (OR ARE OTHERWISE EXEMPT FROM LISTING) ON THE TSCA INVENTORY.  
THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR (CONTROLLED PRODUCTS REGULATIONS) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

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SECTION 16: OTHER INFORMATION  
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THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE AT THE TIME OF PREPARATION OF THIS DATA SHEET AND WHICH ICI PAINTS BELIEVES TO BE RELIABLE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA. ICI PAINTS SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS INFORMATION, OR OF ANY PRODUCT, METHOD OR APPARATUS MENTIONED AND YOU MUST MAKE YOUR OWN DETERMINATION OF ITS SUITABILITY AND COMPLETENESS FOR YOUR OWN USE, FOR THE PROTECTION OF THE ENVIRONMENT, AND THE HEALTH AND SAFETY OF YOUR EMPLOYEES AND USERS OF THIS MATERIAL.  
COMPLIES WITH OSHA HAZARD COMMUNICATION STANDARD 29CFR1910.1200.